

Appl. No. 09/388,804
Amdt. dated September 17, 2003
Reply to Office Action of June 17, 2003

REMARKS

This Amendment is in response to the Office Action mailed June 17, 2003. In the Office Action, the Examiner rejected claims 1-21 and 23 under 35 U.S.C. § 102, and rejected claim 22 under 35 U.S.C. § 103. Claims 1-23 remain pending in the application. Reconsideration in light of the amendments and remarks made herein is respectfully requested.

Amendments to the Claims

Applicant has amended claims 1, 9, and 12 to add --the LAN ports providing packets of data having a plurality of sizes--. Support for this amendment may be found in the specification as filed on page 8, lines 5-8, which discloses that bandwidth may be exceeded without exceeding switching capacity when large data packets are transferred and switching capacity may be exceeded without exceeding bandwidth when small data packets are transferred. Bandwidth and switching capacity are two different capacity constraints of a router resource. Bandwidth measures the capacity in terms of the amount of data transferred per unit time. Switching capacity measures the capacity in terms of the number of data packets transferred per unit time. The claims are directed to a method and apparatus for controlling utilization of a router resource according to both bandwidth and switching capacity so that utilization is controlled for both large and small data packets. As amended, the claims are directed to an environment with data traffic that includes large packets that may cause the bandwidth to be exceeded and small packets that may cause the switching capacity to be exceeded.

Applicant has amended claim 15 to add dropping packets --inbound on that port at the packets' entry point to the router--. This is similar to claim 4, as originally filed.

Rejection Under 35 U.S.C. § 102

5. The Examiner rejects claims 1-3, 9, and 12 under 35 U.S.C. § 102(e) as being anticipated by Pasternak et al. (US 6,157,614).

Regarding claims 1, 9, and 12, the Examiner asserts that Pasternak discloses a LAN to WAN network where the bandwidth is allocated by predefined service categories and by bandwidth handling algorithms which include a bucket algorithm and traffic shaping.

Applicant respectfully submits that the Examiner has failed to show how the cited disclosures of Pasternak teach each and every limitation of the claim. Claims 1, 9, and 12 include limitations requiring that the utilization of router resources be controlled "according to bandwidth availability of corresponding bundles of the WAN links assigned to each of the LAN ports and a switching capacity of the router resource." The Examiner does not state which of the cited elements disclosed by Pasternak the Examiner considers to disclose allocation by bandwidth availability and which cited elements disclose allocation by switching capacity.

Pasternak discloses a method and apparatus for allocating only bandwidth based on two criteria. The claims are directed to control of port utilization based on both bandwidth and switching capacity which are two different capacity constraints of a router resource. Pasternak discloses a method and apparatus for an ATM network. ATM utilizes a data cell of a fixed size

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and, as a result, bandwidth and switching capacity requirements are the same. Therefore, Pasternak does not disclose a method and apparatus for using both bandwidth and switching capacity to control the utilization of a router resource as claimed.

Regarding claim 2, the Examiner asserts that the disclosure by Pasternak of bandwidth allocation teaches the claim limitation directed to switching capacity. Applicant respectfully disagrees. Bandwidth and switching capacity are two different capacity constraints of a router resource. Applicant respectfully submits that the Pasternak disclosure of bandwidth allocation does not disclose the claimed limitation for switching capacity.

Regarding claim 3, the Examiner asserts that the disclosure by Pasternak of bandwidth control teaches the claim limitation directed to switching capacity. Applicant respectfully disagrees. Applicant respectfully submits that the Pasternak disclosure of bandwidth control does not disclose the claimed limitation for switching capacity.

Applicant respectfully requests that the Examiner withdraw the rejection of claims 1-3, 9, and 12 under 35 U.S.C. § 102(e) as being anticipated by Pasternak.

6. The Examiner rejects claims 1-21 and 23 under 35 U.S.C. § 102(e) as being anticipated by Vaid et al. (US 6,292,465).

Regarding claims 1, 9, and 12, the Examiner asserts that Vaid discloses a LAN and WAN combined network with a bandwidth allocation scheme that provides bandwidth to different classes of data traffic.

Applicant respectfully submits that the Examiner has failed to show how the cited disclosures of Vaid teach each and every limitation of the claim. Claims 1, 9, and 12 include limitations requiring that the utilization of router resources be controlled "according to ... a switching capacity of the router resource."

Vaid discloses a method and apparatus for allocating only bandwidth to different classes of data traffic. The claims are directed to control of port utilization based on both bandwidth and switching capacity which are two different capacity constraints of a router resource. Vaid does not disclose a method and apparatus for using both bandwidth and switching capacity to control the utilization of a router resource as claimed.

Regarding claims 2 and 13, the Examiner asserts that the disclosure by Vaid of sharing of excess bandwidth teaches the claim limitation directed to switching capacity. Applicant respectfully disagrees. Applicant respectfully submits that the Vaid disclosure of bandwidth allocation does not disclose the claimed limitation for switching capacity.

Regarding claims 3, 10, 14, 16, and 20, the Examiner asserts that the disclosure by Vaid of throttling back bandwidth, dropping packets, and denying access teaches the claim limitation directed to throttling back "the LAN ports that are attempting to utilize more than their fair share of ... the switching capacity." Applicant respectfully disagrees. Applicant respectfully submits that the Vaid disclosure of throttling back for bandwidth control does not disclose the claimed limitation of throttling back to control switching capacity.

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Regarding claims 4, 11, 15, and 21, the Examiner asserts that the disclosure by Vaid of throttling back bandwidth, dropping packets, and denying access teaches the claim limitation directed to "dropping packets inbound on that port at the packets' entry point to the router resource." Vaid does not disclose that dropping of packets occurs at the entry point to the router resource.

Regarding claim 5, the Examiner asserts that the disclosure by Vaid of denying new requests based on exception control teaches the claim limitation directed to admitting "inbound traffic according to ... a current utilization of total switching capacity of the router resource." Applicant respectfully disagrees. Vaid discloses that exception control is implemented when bandwidth link capacity is being exceeded. Applicant respectfully submits that this does not disclose the claimed limitation of selectively admitting inbound traffic to control switching capacity.

Regarding claim 6, applicant relies on the patentability of the claim from which this claim depends to traverse the rejection without prejudice to any further basis for patentability of this claim based on the additional limitations recited.

Regarding claims 7 and 18, the Examiner asserts that the disclosure by Vaid of a traffic type priority scheme to decide which traffic should be subject to exception control teaches allowing "traffic to be admitted ... so long as the total switching capacity of the router resource has not been attained." Vaid does not teach managing traffic based on switching capacity nor a traffic management scheme that ignores a port allocation of the switching capacity so long as the total router switching capacity is not being exceeded.

Regarding claims 8, 17, and 19, applicant relies on the patentability of the claim from which this claim depends to traverse the rejection without prejudice to any further basis for patentability of this claim based on the additional limitations recited.

Regarding claim 23, applicant relies on the patentability of the claim from which this claim depends to traverse the rejection without prejudice to any further basis for patentability of this claim based on the additional limitations recited.

Applicant respectfully requests that the Examiner withdraw the rejection of claims 1-21 and 23 under 35 U.S.C. § 102(e) as being anticipated by Vaid.

Rejection Under 35 U.S.C. § 103

8. The Examiner rejects claim 22 under 35 U.S.C. § 103(a) as being unpatentable over Vaid et al. (US 6,292,465) in view of Vaid et al. (US 6,119,235).

Applicant relies on the patentability of the claim from which this claim depends to traverse the rejection without prejudice to any further basis for patentability of this claim based on the additional limitations recited.

Applicant respectfully requests that the Examiner withdraw the rejection of claim 22 under 35 U.S.C. § 103(a) as being unpatentable over Vaid in view of Vaid.

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Conclusion

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: September 17, 2003

By

James Henry

Reg. No. 41,064

Tel. (714) 557-3800 (Pacific Coast)

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